FIG. 1

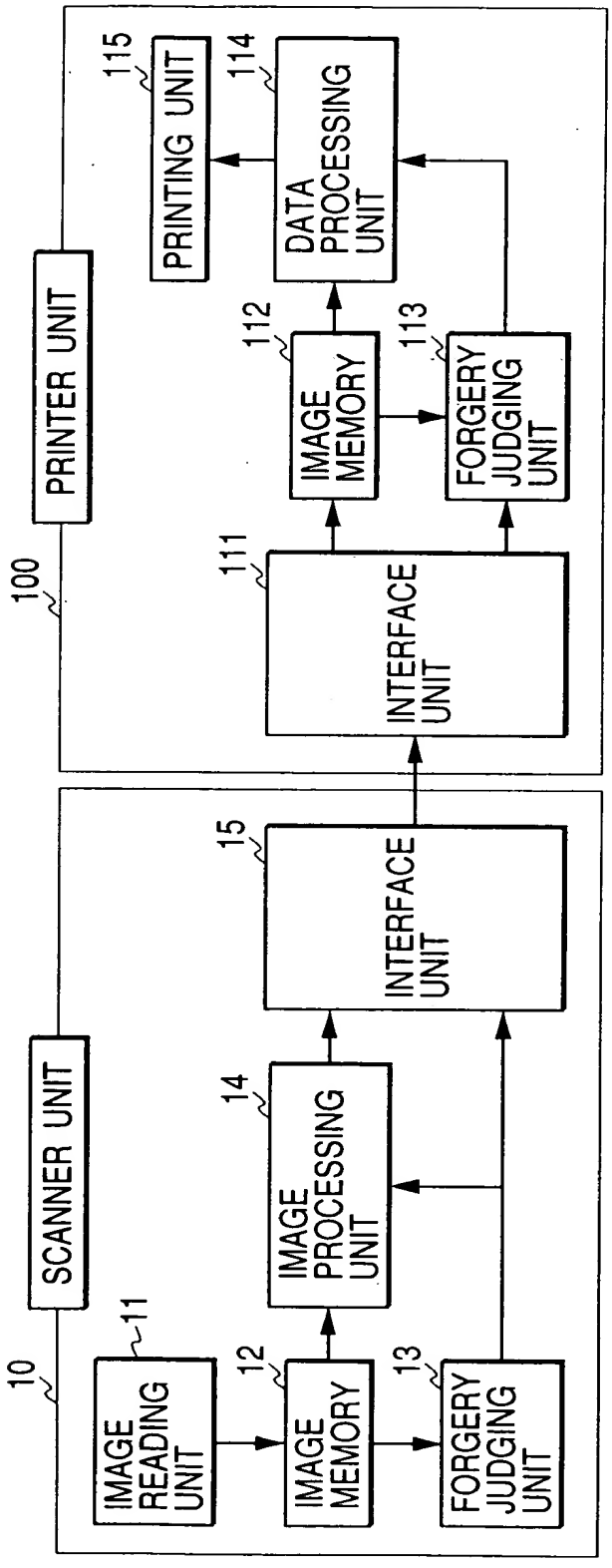
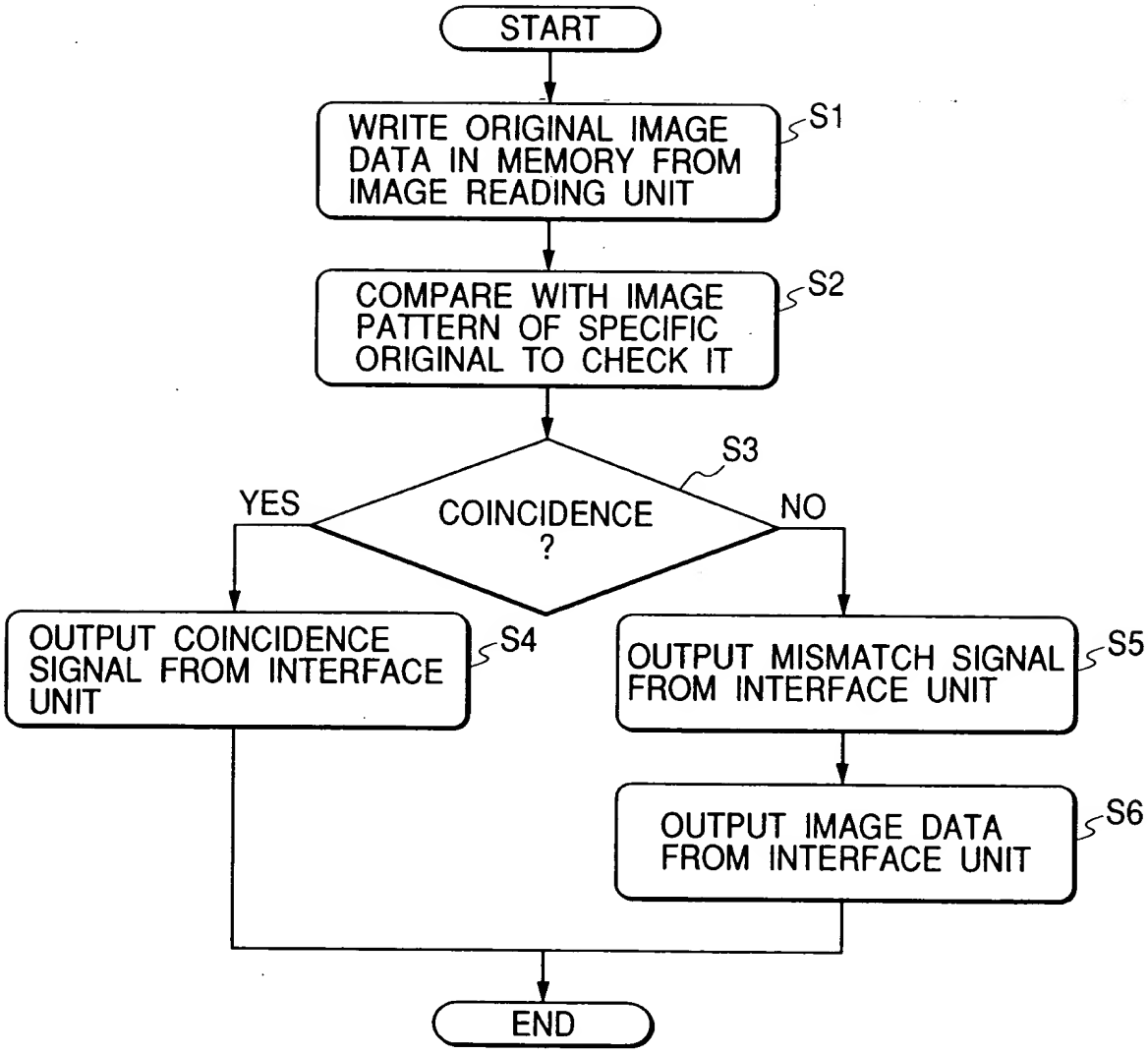

10
IMAGE READING UNIT
11
SCANNER UNIT
12
IMAGE MEMORY
13
FORGERY JUDGING UNIT
14
IMAGE PROCESSING UNIT
15
INTERFACE UNIT
100
PRINTER UNIT
111
INTERFACE UNIT
112
IMAGE MEMORY
113
FORGERY JUDGING UNIT
114
DATA PROCESSING UNIT
115
PRINTING UNIT

FIG. 2



0056280230720800

FIG. 3

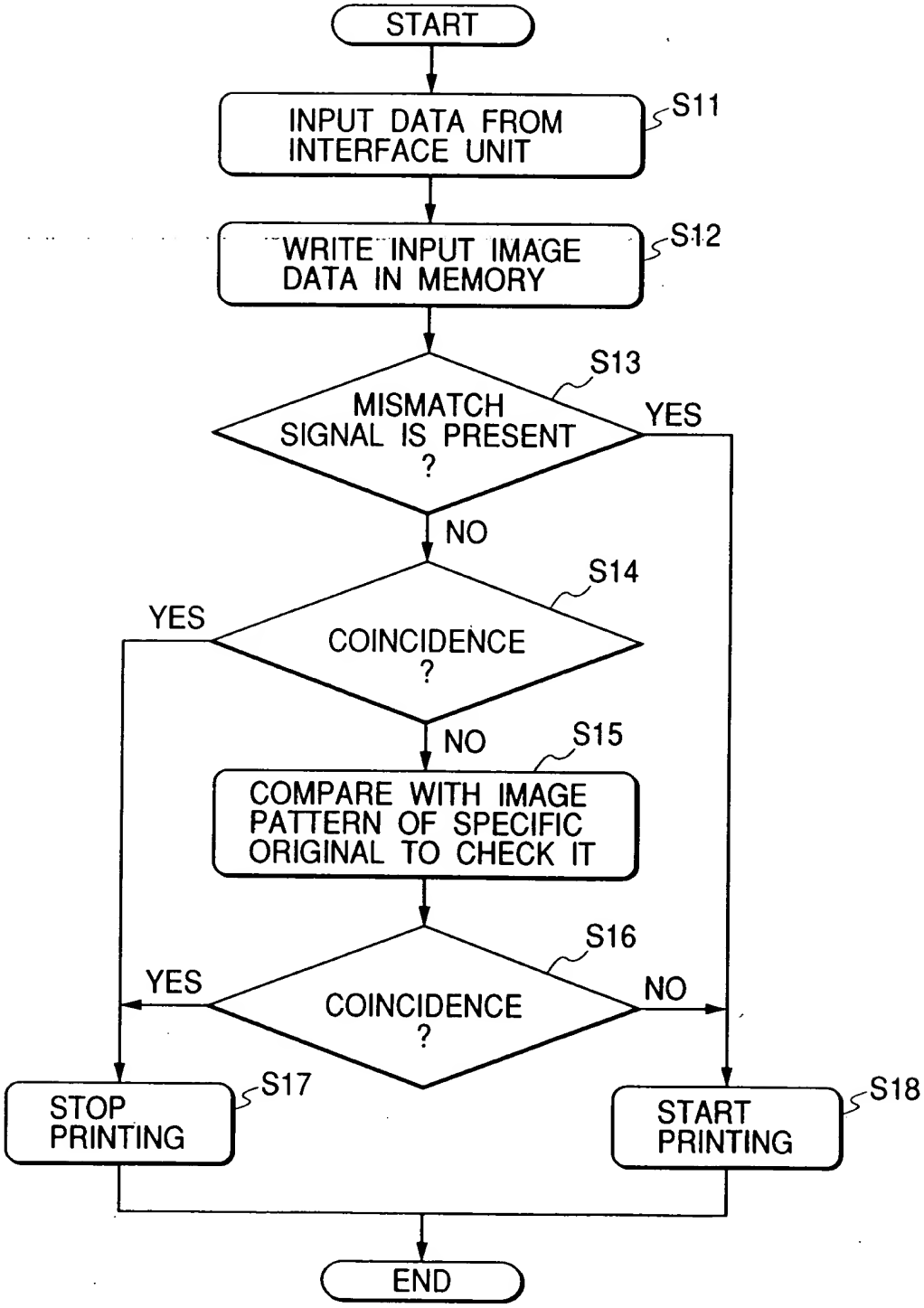

START
INPUT DATA FROM INTERFACE UNIT
S11
WRITE INPUT IMAGE DATA IN MEMORY
S12
MISMATCH SIGNAL IS PRESENT ?
S13
YES
NO
COINCIDENCE ?
S14
YES
NO
COMPARE WITH IMAGE PATTERN OF SPECIFIC ORIGINAL TO CHECK IT
S15
COINCIDENCE ?
S16
YES
NO
STOP PRINTING
S17
START PRINTING
S18
END

FIG. 4

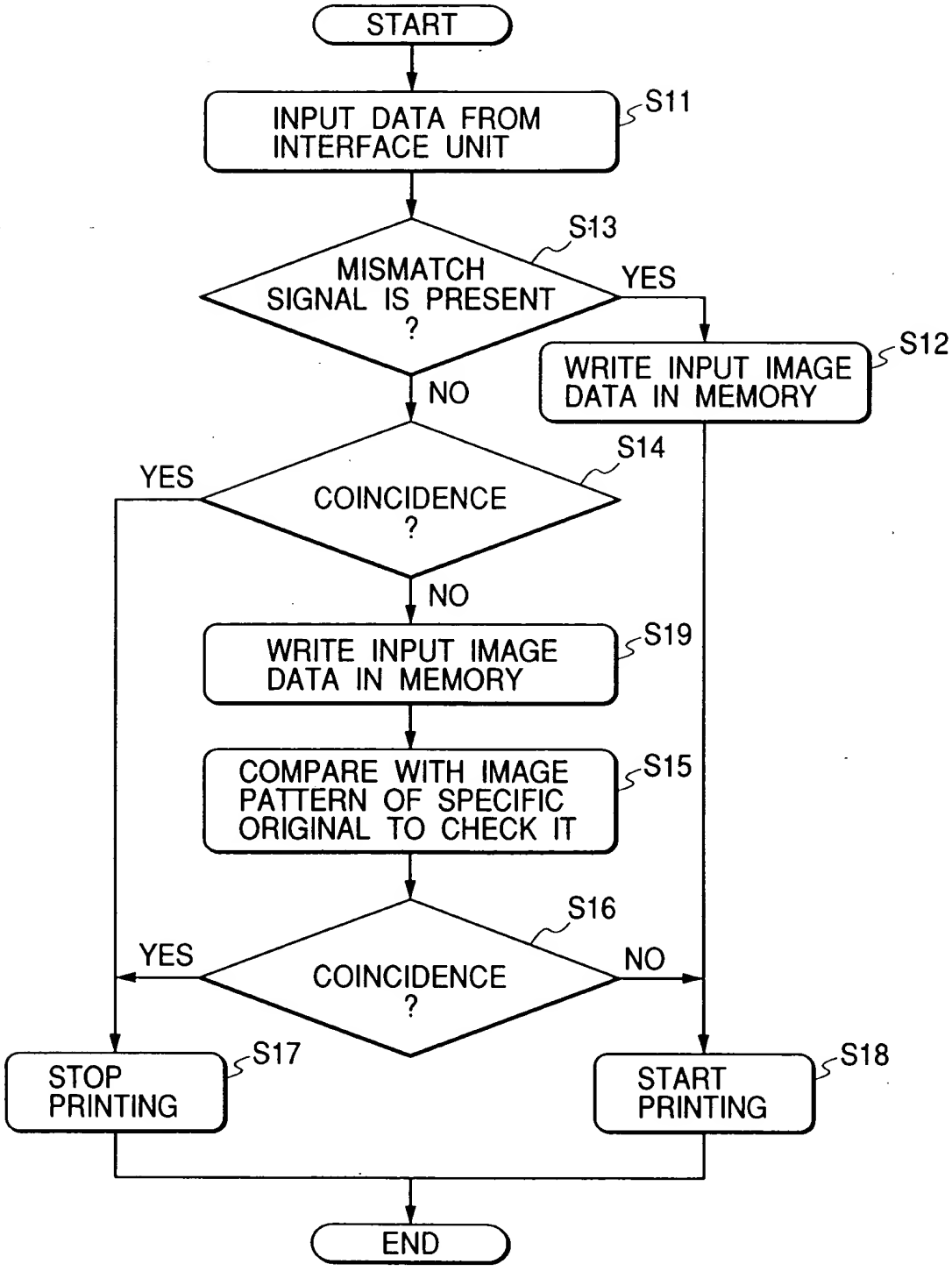

START
INPUT DATA FROM INTERFACE UNIT
S11
MISMATCH SIGNAL IS PRESENT ?
S13
YES
NO
WRITE INPUT IMAGE DATA IN MEMORY
S12
COINCIDENCE ?
S14
YES
NO
WRITE INPUT IMAGE DATA IN MEMORY
S19
COMPARE WITH IMAGE PATTERN OF SPECIFIC ORIGINAL TO CHECK IT
S15
COINCIDENCE ?
S16
YES
NO
STOP PRINTING
S17
START PRINTING
S18
END

FIG. 5

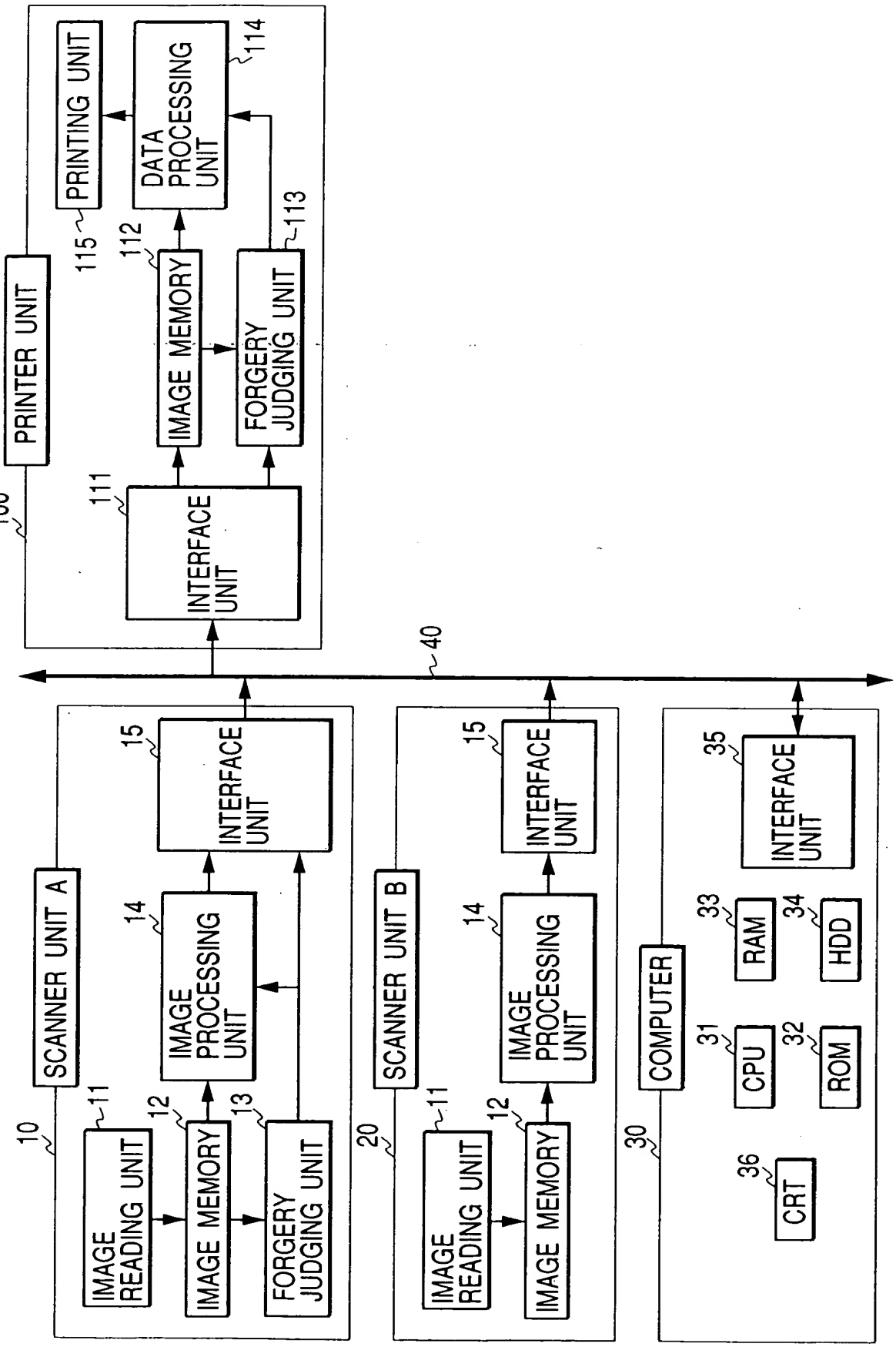

100
PRINTER UNIT
PRINTING UNIT
115
DATA PROCESSING UNIT
114
IMAGE MEMORY
112
FORGERY JUDGING UNIT
113
INTERFACE UNIT
111
40
10
SCANNER UNIT A
IMAGE READING UNIT
11
IMAGE MEMORY
12
FORGERY JUDGING UNIT
13
IMAGE PROCESSING UNIT
14
INTERFACE UNIT
15
20
SCANNER UNIT B
IMAGE READING UNIT
11
IMAGE MEMORY
12
IMAGE PROCESSING UNIT
14
INTERFACE UNIT
15
30
COMPUTER
CPU
31
ROM
32
RAM
33
HDD
34
INTERFACE UNIT
35
CRT
36

FIG. 6

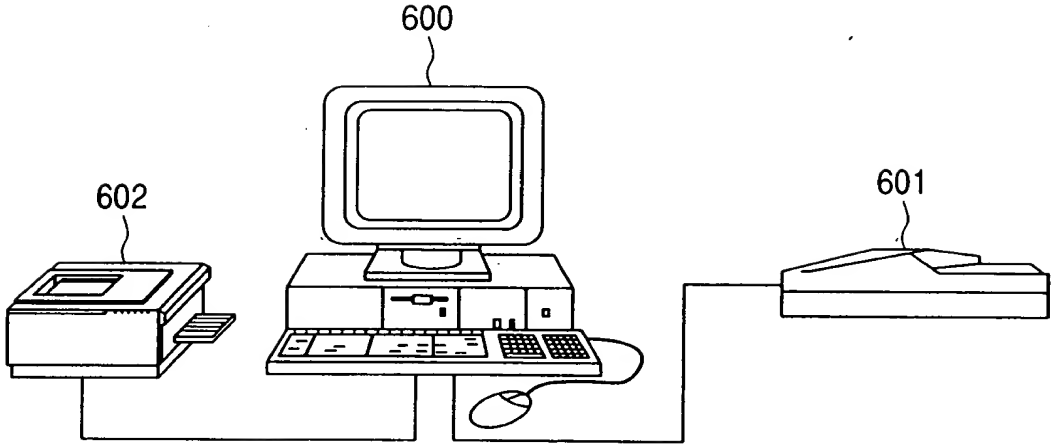

600
602
601

FIG. 7

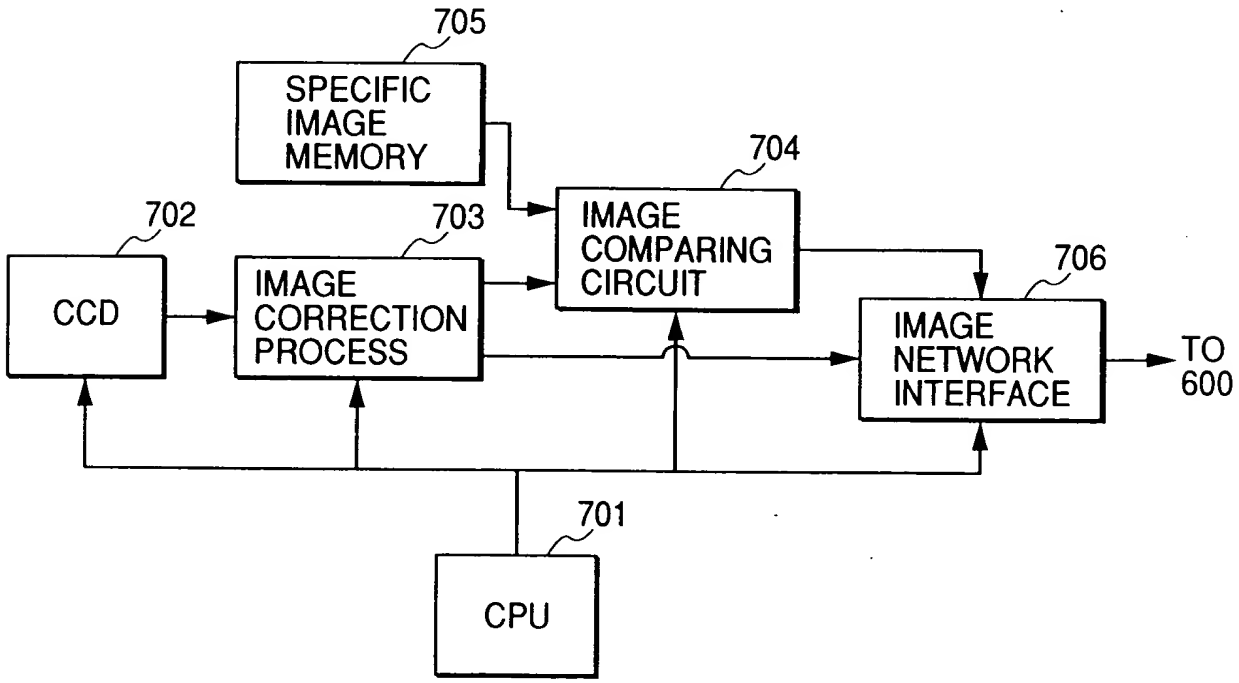

705
SPECIFIC IMAGE MEMORY
704
IMAGE COMPARING CIRCUIT
702
CCD
703
IMAGE CORRECTION PROCESS
706
IMAGE NETWORK INTERFACE
TO 600
701
CPU

FIG. 8

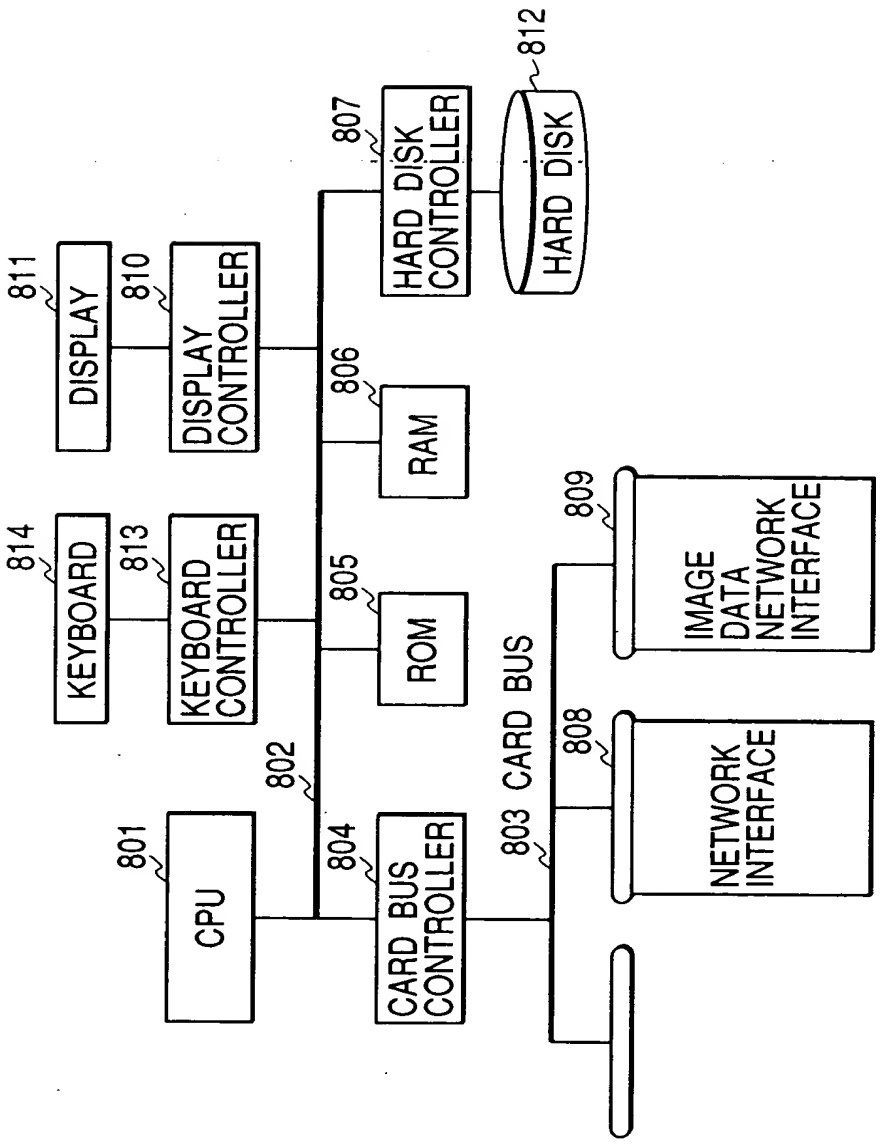

801
CPU
802
803 CARD BUS
804
CARD BUS CONTROLLER
805
ROM
806
RAM
807
HARD DISK CONTROLLER
812
HARD DISK
808
NETWORK INTERFACE
809
IMAGE DATA NETWORK INTERFACE
810
DISPLAY CONTROLLER
811
DISPLAY
813
KEYBOARD CONTROLLER
814
KEYBOARD

FIG. 9

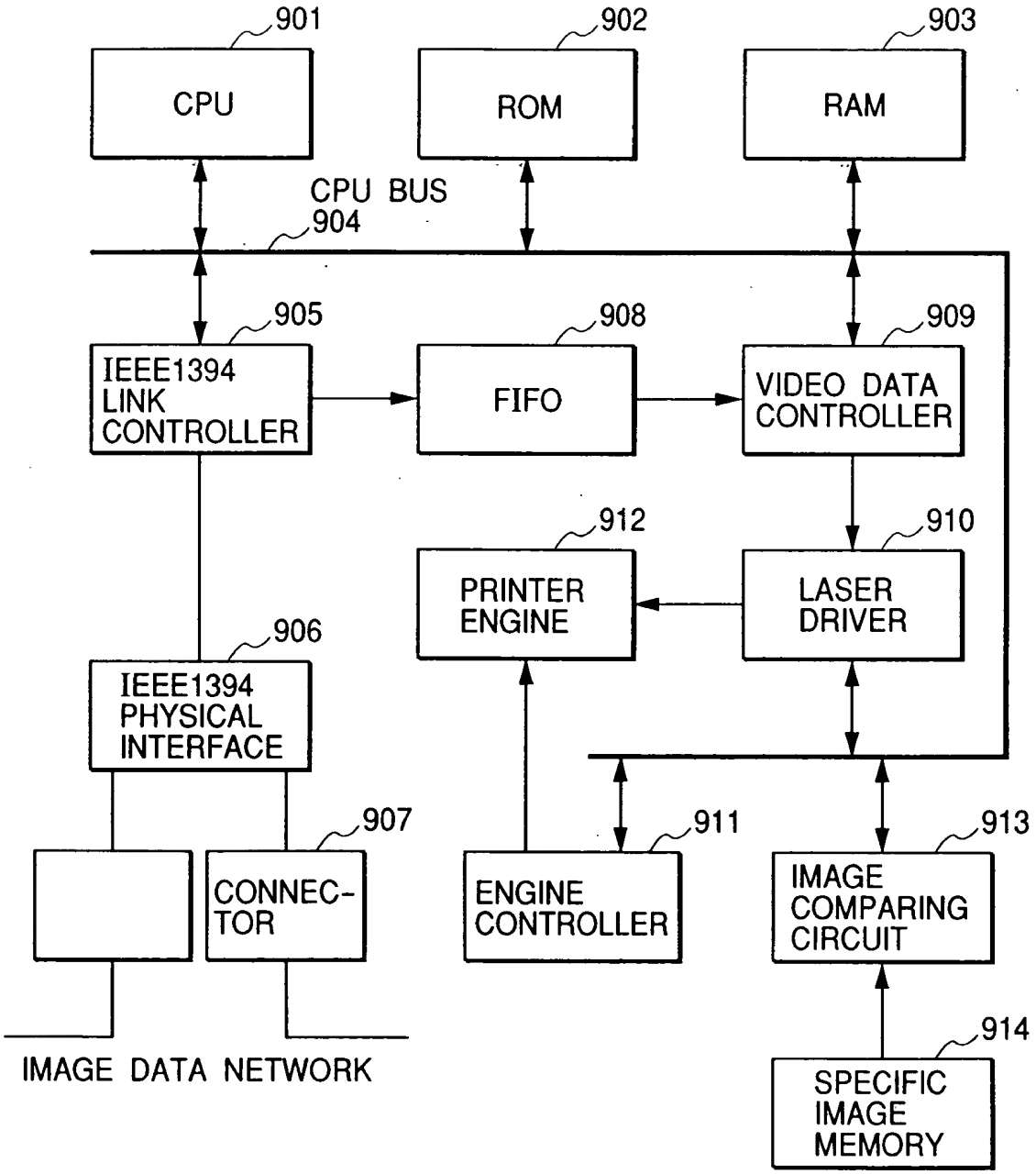

901
CPU
902
ROM
903
RAM
CPU BUS
904
905
IEEE1394
LINK
CONTROLLER
908
FIFO
909
VIDEO DATA
CONTROLLER
912
PRINTER
ENGINE
910
LASER
DRIVER
906
IEEE1394
PHYSICAL
INTERFACE
907
CONNEC-
TOR
911
ENGINE
CONTROLLER
913
IMAGE
COMPARING
CIRCUIT
914
SPECIFIC
IMAGE
MEMORY
IMAGE DATA NETWORK

FIG. 10

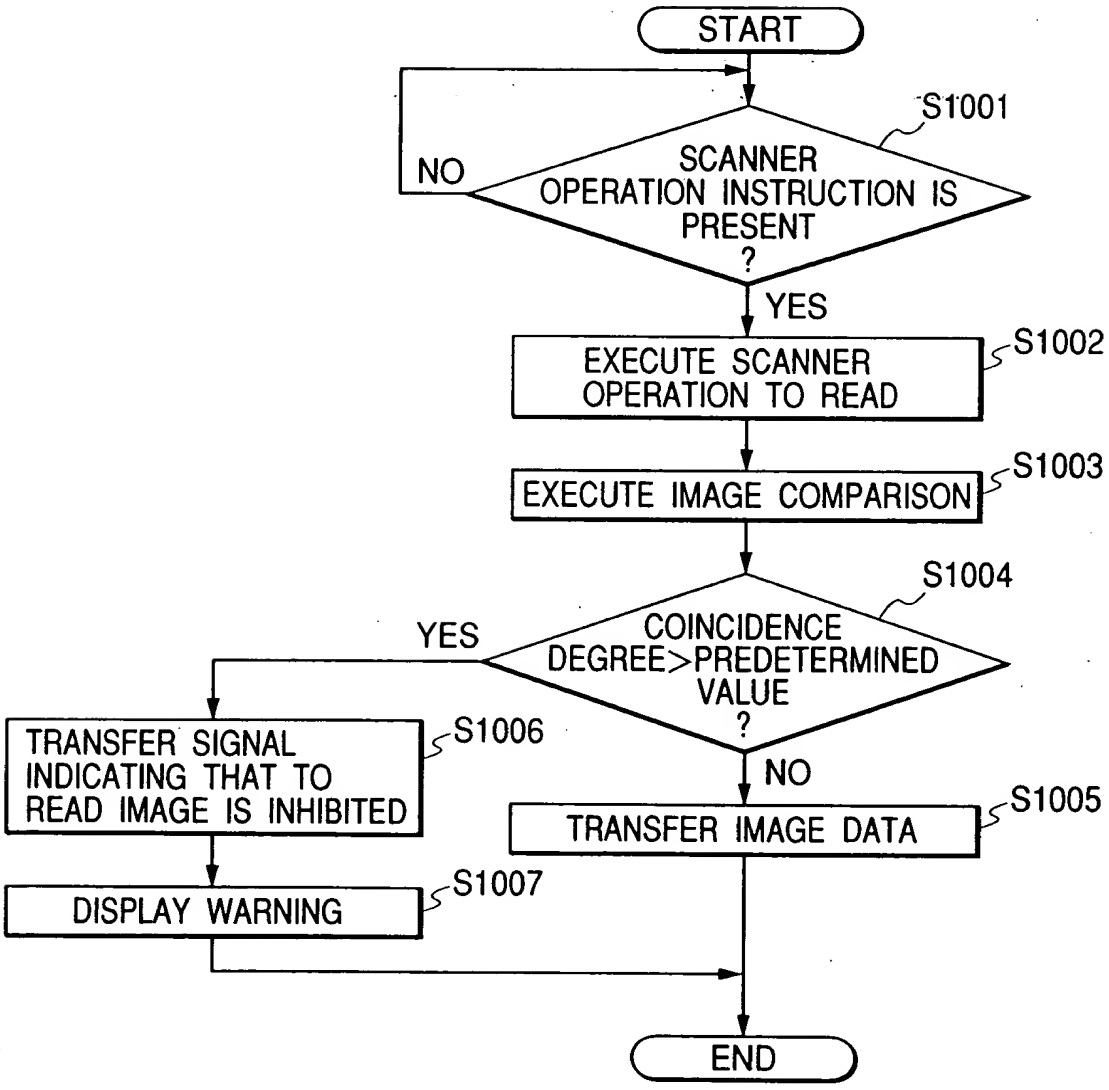

START
S1001
SCANNER OPERATION INSTRUCTION IS PRESENT ?
NO
YES
EXECUTE SCANNER OPERATION TO READ
S1002
EXECUTE IMAGE COMPARISON
S1003
S1004
COINCIDENCE DEGREE>PREDETERMINED VALUE ?
YES
NO
TRANSFER SIGNAL INDICATING THAT TO READ IMAGE IS INHIBITED
S1006
TRANSFER IMAGE DATA
S1005
DISPLAY WARNING
S1007
END

FIG. 11

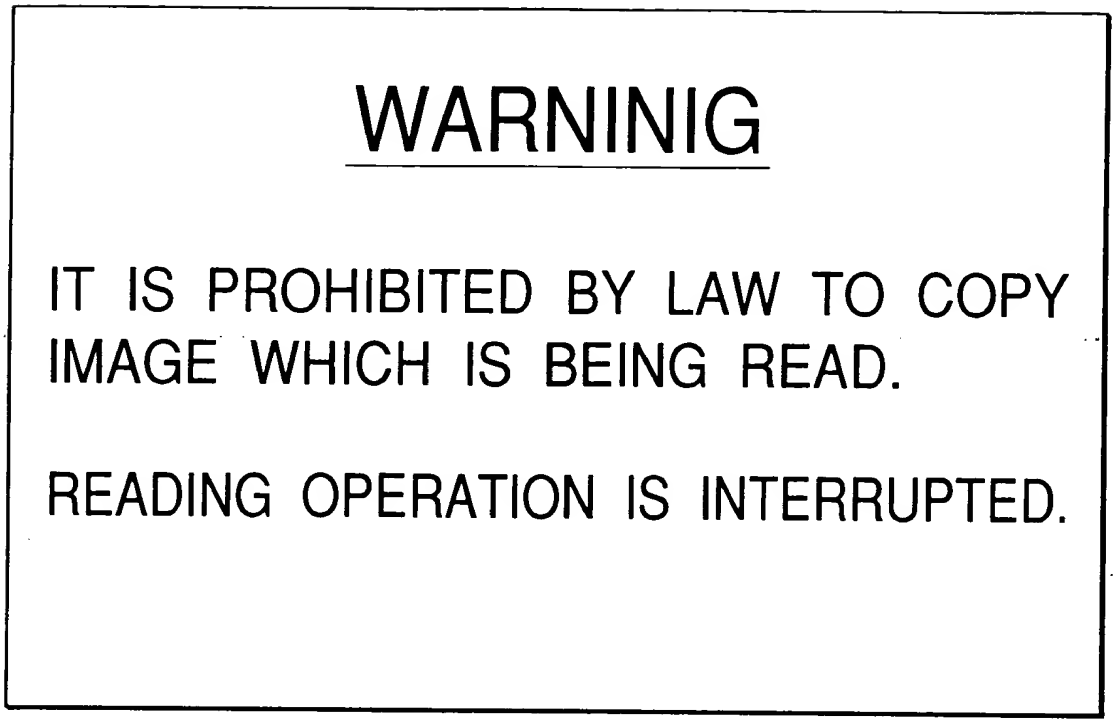
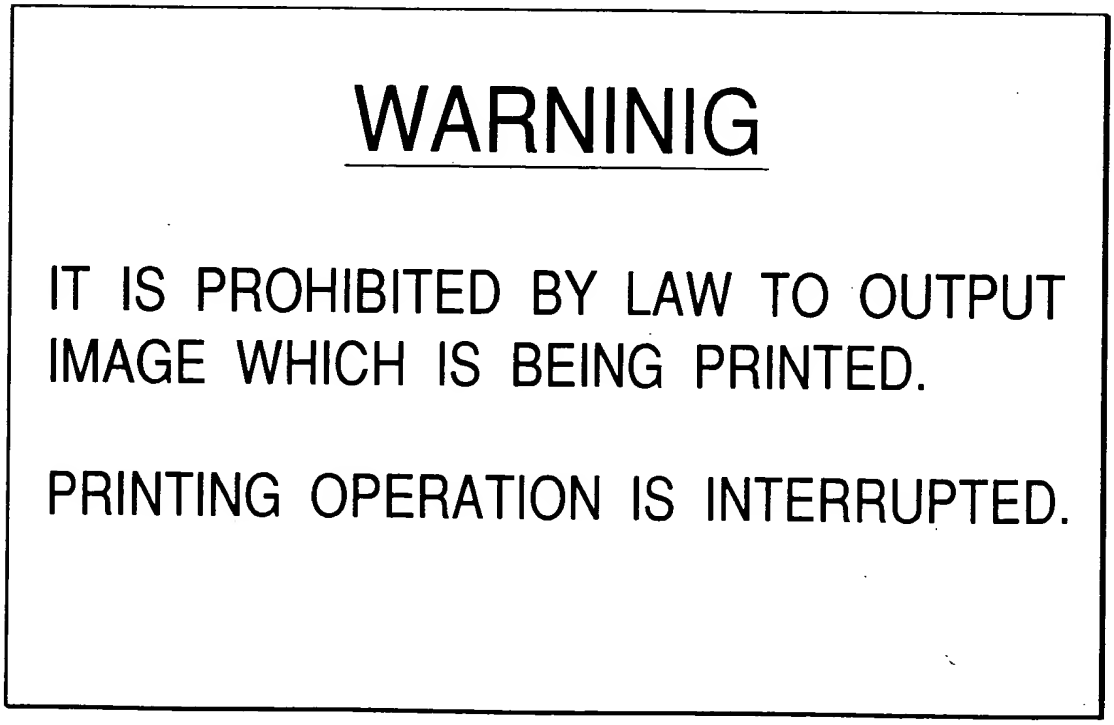


FIG. 13



0952803-092800

FIG. 12

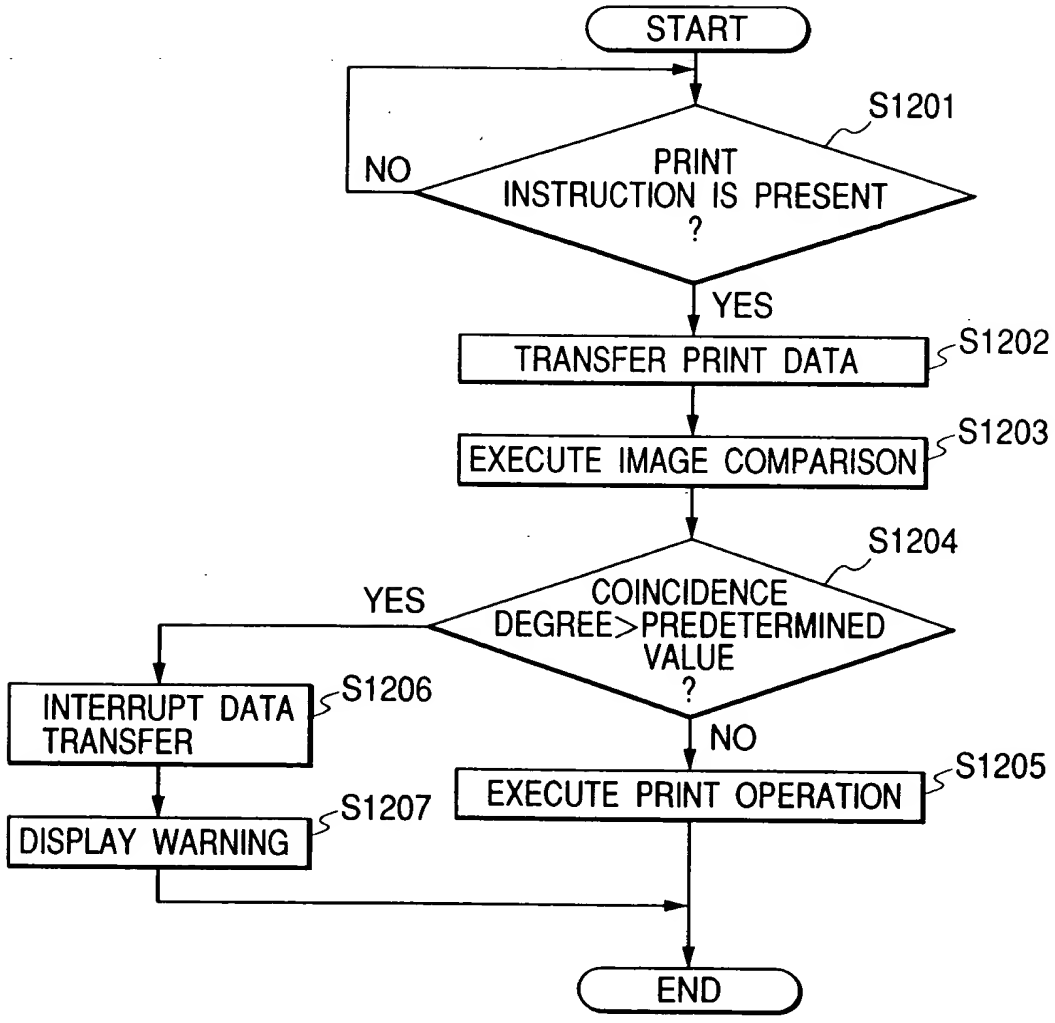

START
S1201
PRINT INSTRUCTION IS PRESENT ?
NO
YES
TRANSFER PRINT DATA
S1202
EXECUTE IMAGE COMPARISON
S1203
S1204
COINCIDENCE DEGREE>PREDETERMINED VALUE ?
YES
NO
INTERRUPT DATA TRANSFER
S1206
DISPLAY WARNING
S1207
EXECUTE PRINT OPERATION
S1205
END

FIG. 14

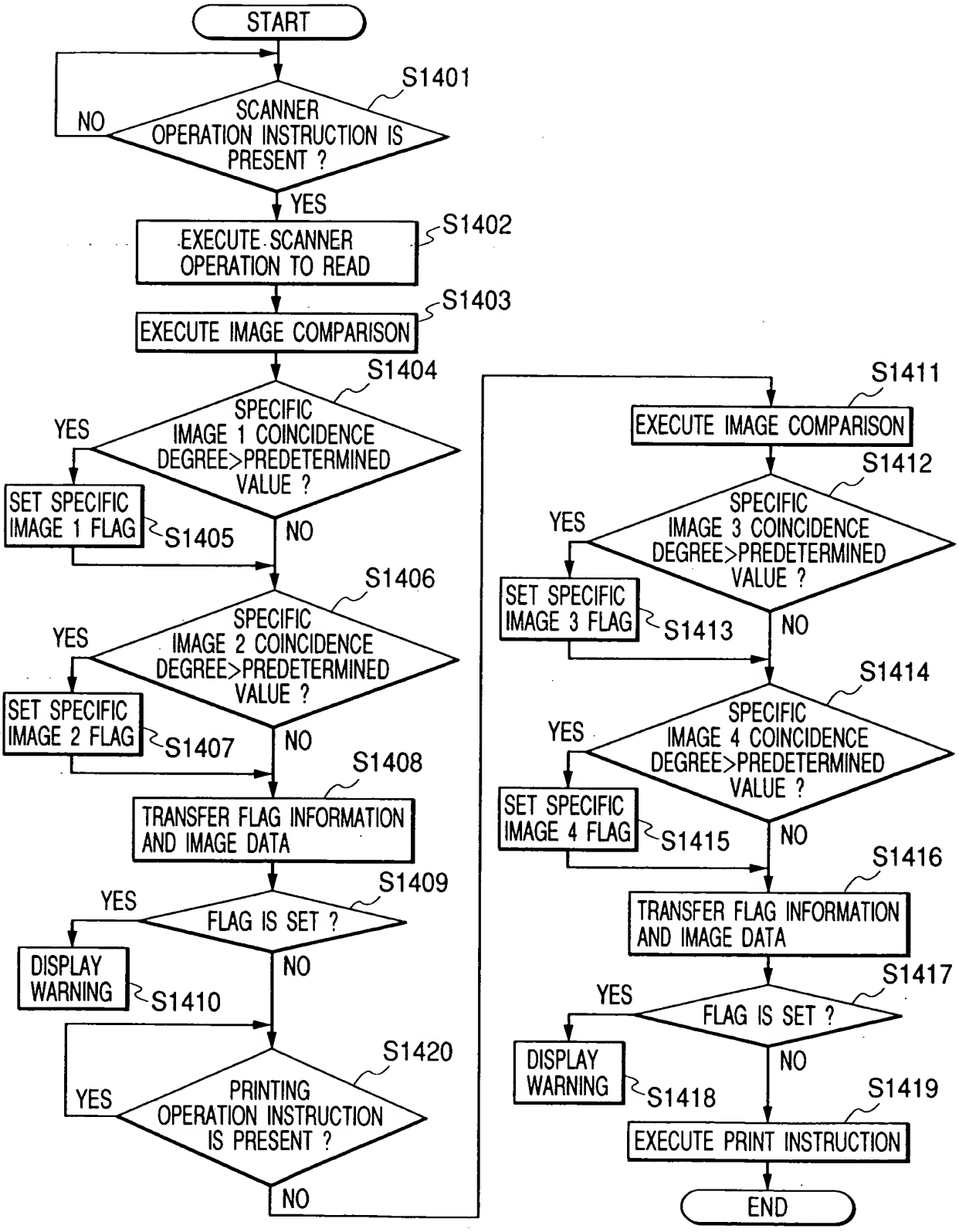

START
S1401
SCANNER OPERATION INSTRUCTION IS PRESENT ?
NO
YES
S1402
EXECUTE SCANNER OPERATION TO READ
S1403
EXECUTE IMAGE COMPARISON
S1404
SPECIFIC IMAGE 1 COINCIDENCE DEGREE>PREDETERMINED VALUE ?
YES
SET SPECIFIC IMAGE 1 FLAG
S1405
NO
S1406
SPECIFIC IMAGE 2 COINCIDENCE DEGREE>PREDETERMINED VALUE ?
YES
SET SPECIFIC IMAGE 2 FLAG
S1407
NO
S1408
TRANSFER FLAG INFORMATION AND IMAGE DATA
S1409
FLAG IS SET ?
YES
DISPLAY WARNING
S1410
NO
S1420
PRINTING OPERATION INSTRUCTION IS PRESENT ?
YES
NO
S1411
EXECUTE IMAGE COMPARISON
S1412
SPECIFIC IMAGE 3 COINCIDENCE DEGREE>PREDETERMINED VALUE ?
YES
SET SPECIFIC IMAGE 3 FLAG
S1413
NO
S1414
SPECIFIC IMAGE 4 COINCIDENCE DEGREE>PREDETERMINED VALUE ?
YES
SET SPECIFIC IMAGE 4 FLAG
S1415
NO
S1416
TRANSFER FLAG INFORMATION AND IMAGE DATA
S1417
FLAG IS SET ?
YES
DISPLAY WARNING
S1418
NO
S1419
EXECUTE PRINT INSTRUCTION
END

FIG. 15

SCANNER	SPECIFIC IMAGE 1	JAPANESE YEN BANK BILL
	SPECIFIC IMAGE 2	AMERICAN DOLLAR BANK BILL
PRINTER	SPECIFIC IMAGE 3	DEUTSCH MARK BANK BILL
	SPECIFIC IMAGE 4	BRITISH POUND BANK BILL

FIG. 17

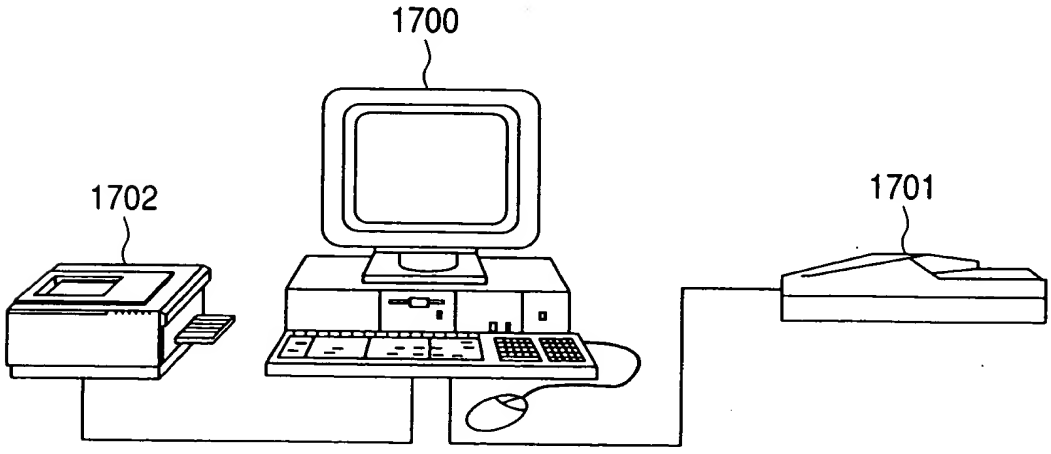


FIG. 16

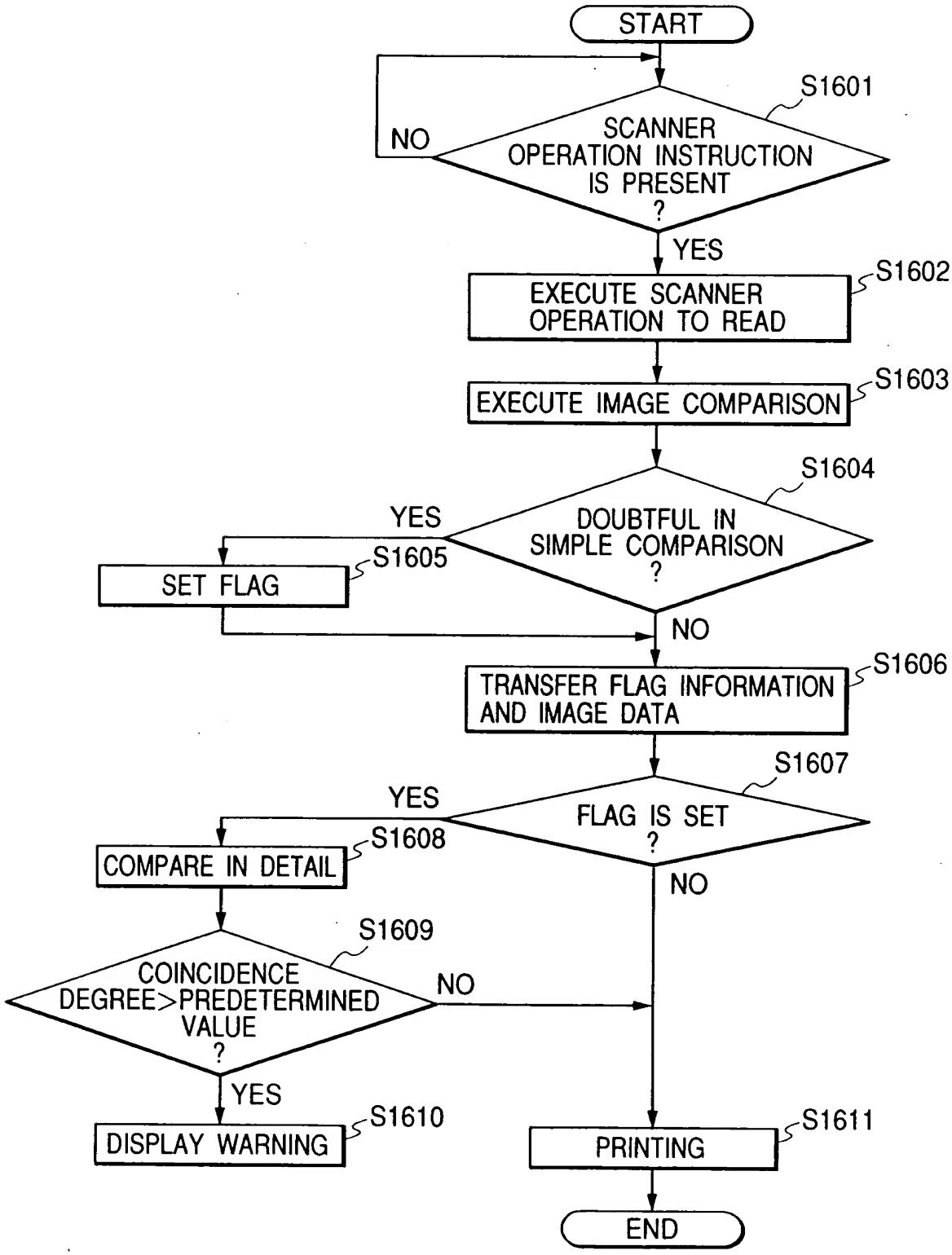

START
S1601
SCANNER OPERATION INSTRUCTION IS PRESENT ?
NO
YES
S1602
EXECUTE SCANNER OPERATION TO READ
S1603
EXECUTE IMAGE COMPARISON
S1604
DOUBTFUL IN SIMPLE COMPARISON ?
YES
S1605
SET FLAG
NO
S1606
TRANSFER FLAG INFORMATION AND IMAGE DATA
S1607
FLAG IS SET ?
YES
S1608
COMPARE IN DETAIL
NO
S1609
COINCIDENCE DEGREE>PREDETERMINED VALUE ?
NO
YES
S1610
DISPLAY WARNING
S1611
PRINTING
END

FIG. 18

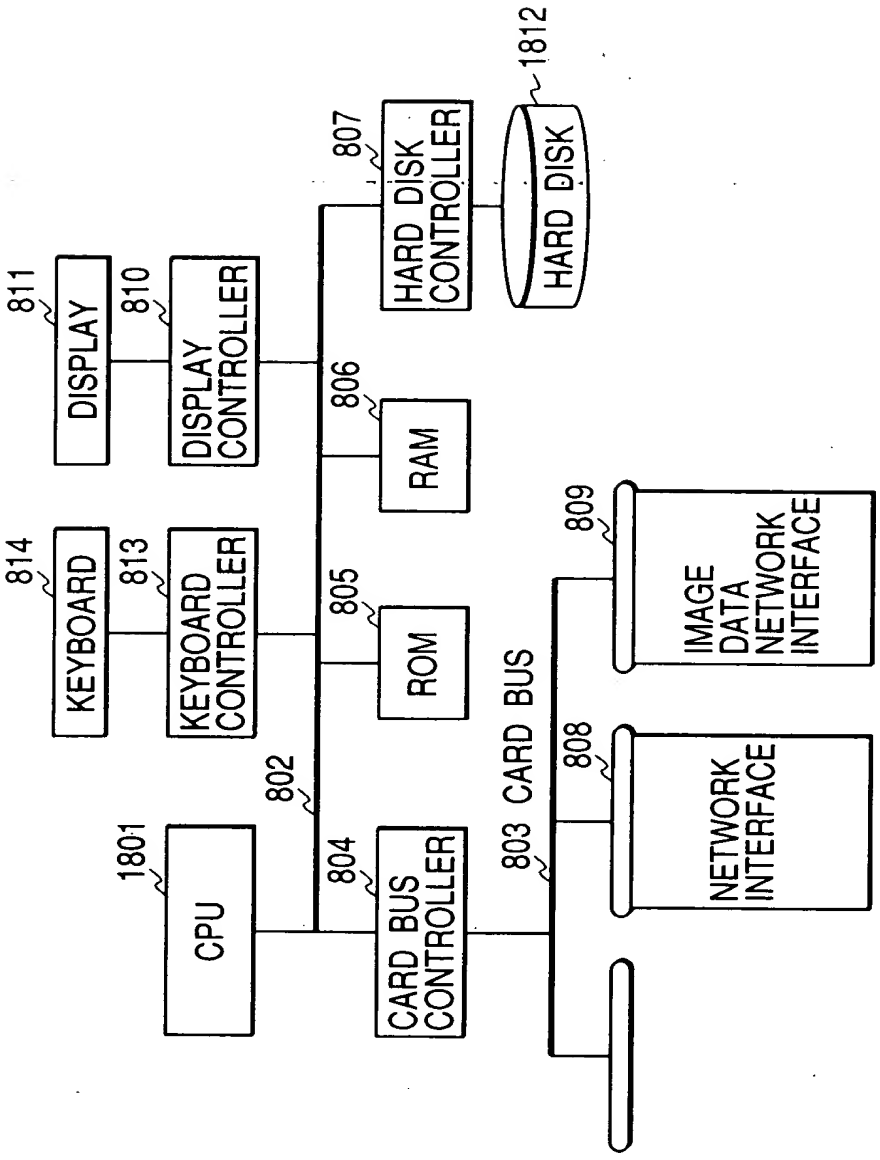

1801
CPU
802
804
CARD BUS CONTROLLER
803 CARD BUS
805
ROM
806
RAM
807
HARD DISK CONTROLLER
1812
HARD DISK
808
NETWORK INTERFACE
809
IMAGE DATA NETWORK INTERFACE
810
DISPLAY CONTROLLER
811
DISPLAY
813
KEYBOARD CONTROLLER
814
KEYBOARD

FIG. 19

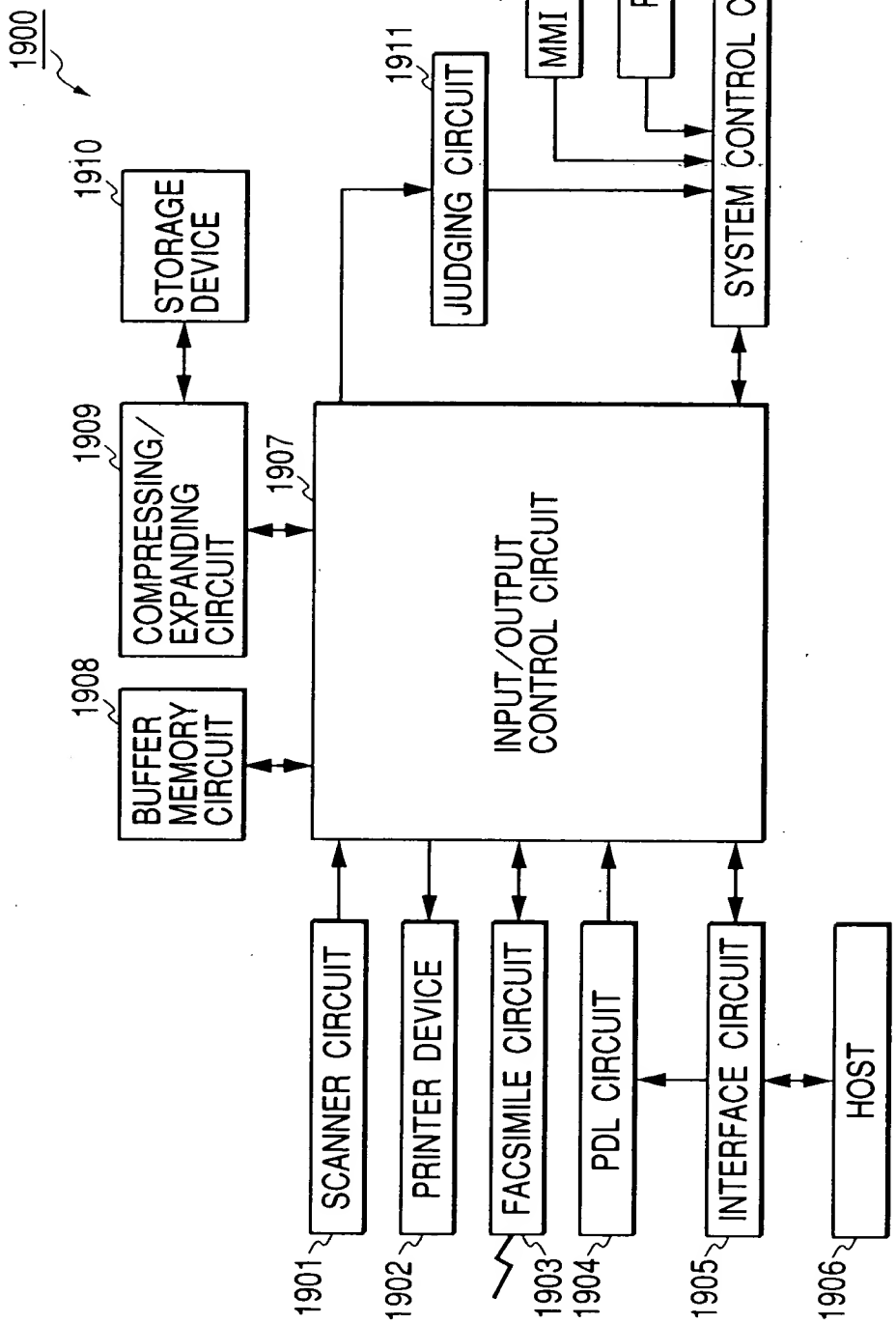

1900
1910
STORAGE DEVICE
1909
COMPRESSING/ EXPANDING CIRCUIT
1908
BUFFER MEMORY CIRCUIT
1907
INPUT/OUTPUT CONTROL CIRCUIT
1911
JUDGING CIRCUIT
1914
MMI CIRCUIT
1913
ROM
1912
SYSTEM CONTROL CIRCUIT
1901
SCANNER CIRCUIT
1902
PRINTER DEVICE
1903
FACSIMILE CIRCUIT
1904
PDL CIRCUIT
1905
INTERFACE CIRCUIT
1906
HOST

FIG. 20A

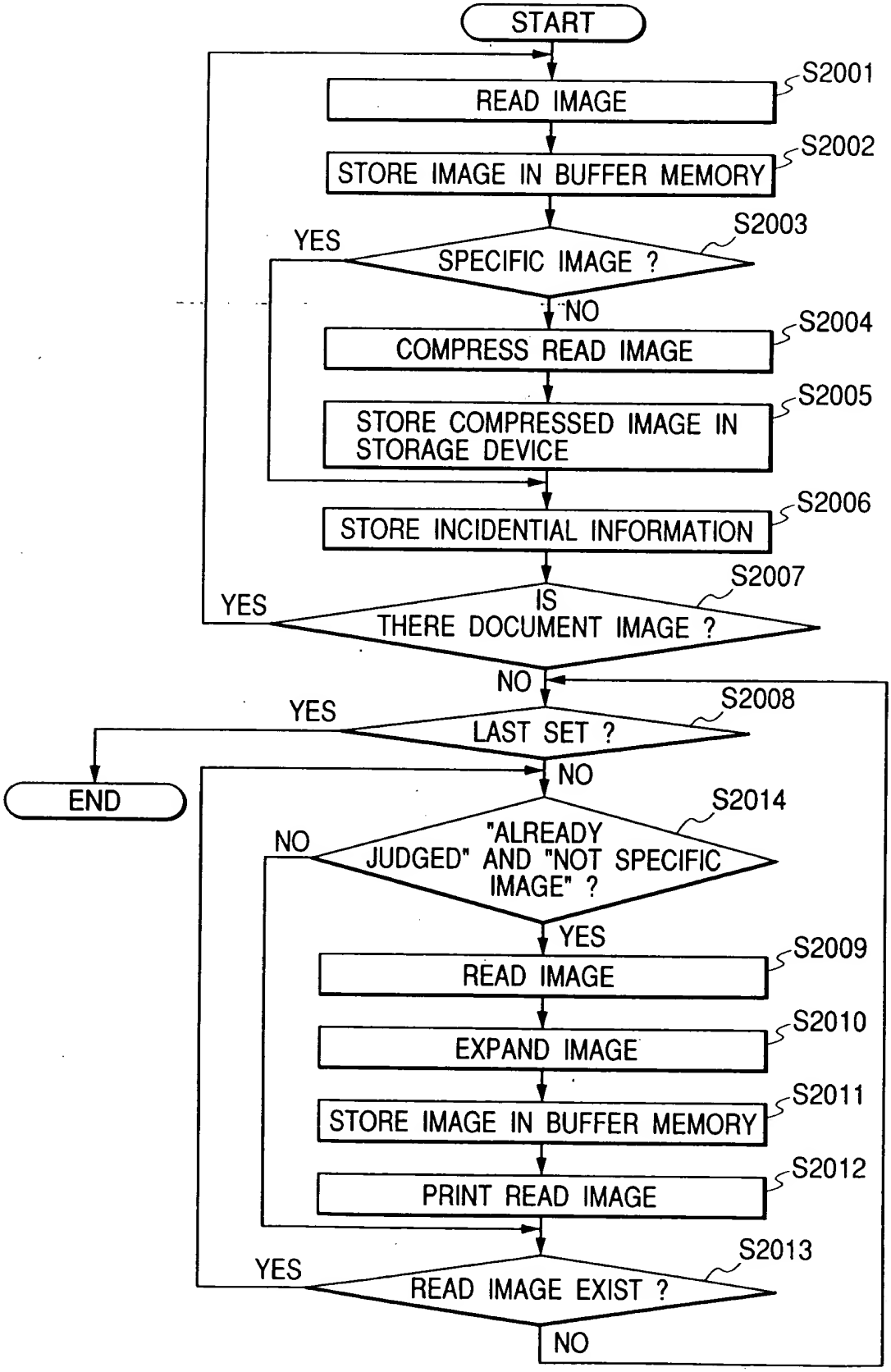

START
READ IMAGE
S2001
STORE IMAGE IN BUFFER MEMORY
S2002
SPECIFIC IMAGE ?
S2003
YES
NO
COMPRESS READ IMAGE
S2004
STORE COMPRESSED IMAGE IN STORAGE DEVICE
S2005
STORE INCIDENTIAL INFORMATION
S2006
IS THERE DOCUMENT IMAGE ?
S2007
YES
NO
LAST SET ?
S2008
YES
NO
END
"ALREADY JUDGED" AND "NOT SPECIFIC IMAGE" ?
S2014
NO
YES
READ IMAGE
S2009
EXPAND IMAGE
S2010
STORE IMAGE IN BUFFER MEMORY
S2011
PRINT READ IMAGE
S2012
READ IMAGE EXIST ?
S2013
YES
NO

FIG. 20B

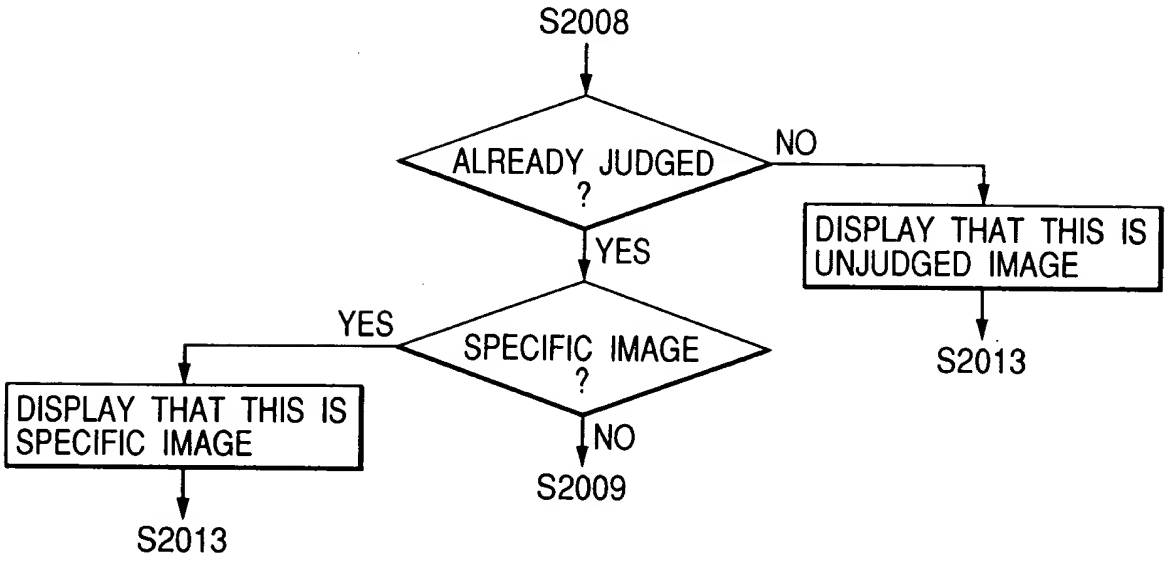

S2008
ALREADY JUDGED ?
NO
DISPLAY THAT THIS IS UNJUDGED IMAGE
S2013
YES
SPECIFIC IMAGE ?
YES
DISPLAY THAT THIS IS SPECIFIC IMAGE
S2013
NO
S2009

FIG. 21

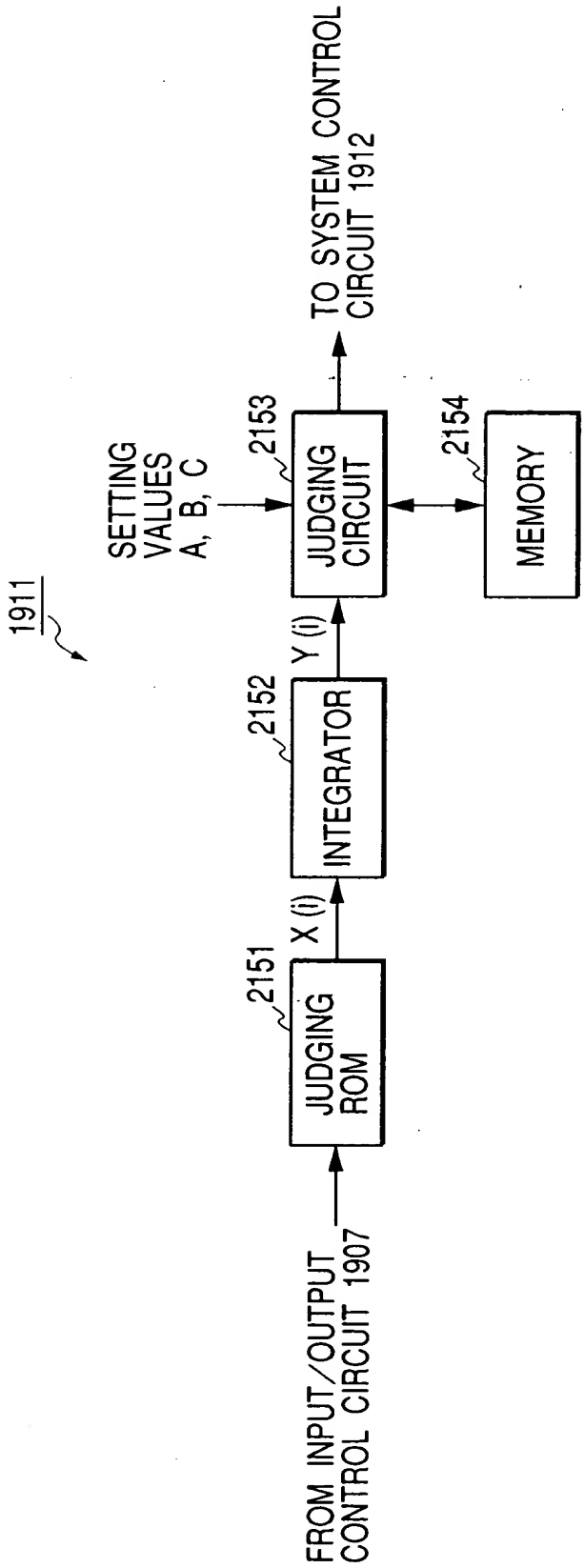

1911
SETTING VALUES A, B, C
2153
JUDGING CIRCUIT
TO SYSTEM CONTROL CIRCUIT 1912
2154
MEMORY
Y (i)
2152
INTEGRATOR
X (i)
2151
JUDGING ROM
FROM INPUT/OUTPUT CONTROL CIRCUIT 1907

FIG. 22

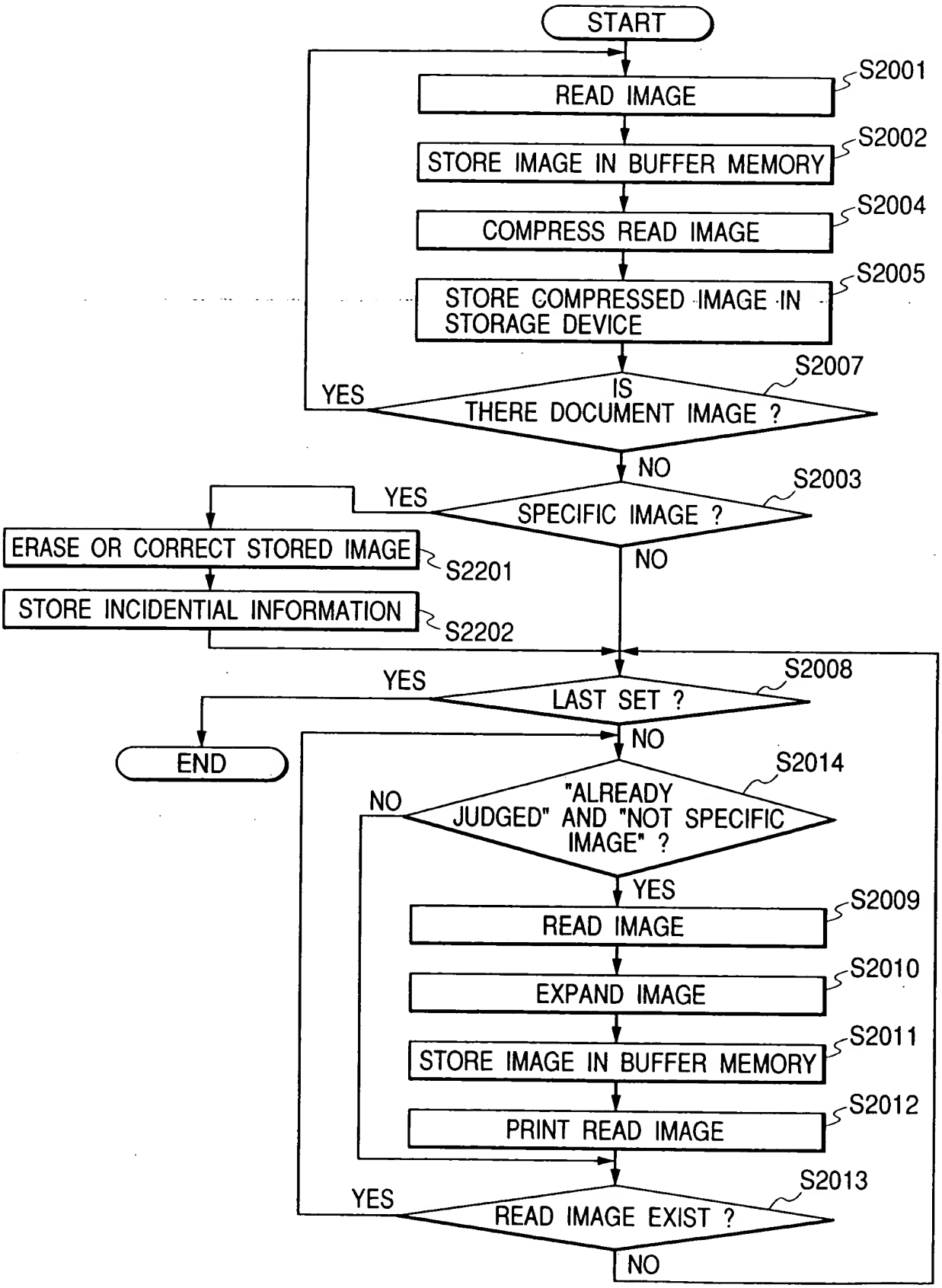

START
READ IMAGE
S2001
STORE IMAGE IN BUFFER MEMORY
S2002
COMPRESS READ IMAGE
S2004
STORE COMPRESSED IMAGE IN STORAGE DEVICE
S2005
IS THERE DOCUMENT IMAGE ?
S2007
YES
NO
SPECIFIC IMAGE ?
S2003
YES
NO
ERASE OR CORRECT STORED IMAGE
S2201
STORE INCIDENTIAL INFORMATION
S2202
LAST SET ?
S2008
YES
NO
END
"ALREADY JUDGED" AND "NOT SPECIFIC IMAGE" ?
S2014
NO
YES
READ IMAGE
S2009
EXPAND IMAGE
S2010
STORE IMAGE IN BUFFER MEMORY
S2011
PRINT READ IMAGE
S2012
READ IMAGE EXIST ?
S2013
YES
NO

FIG. 23

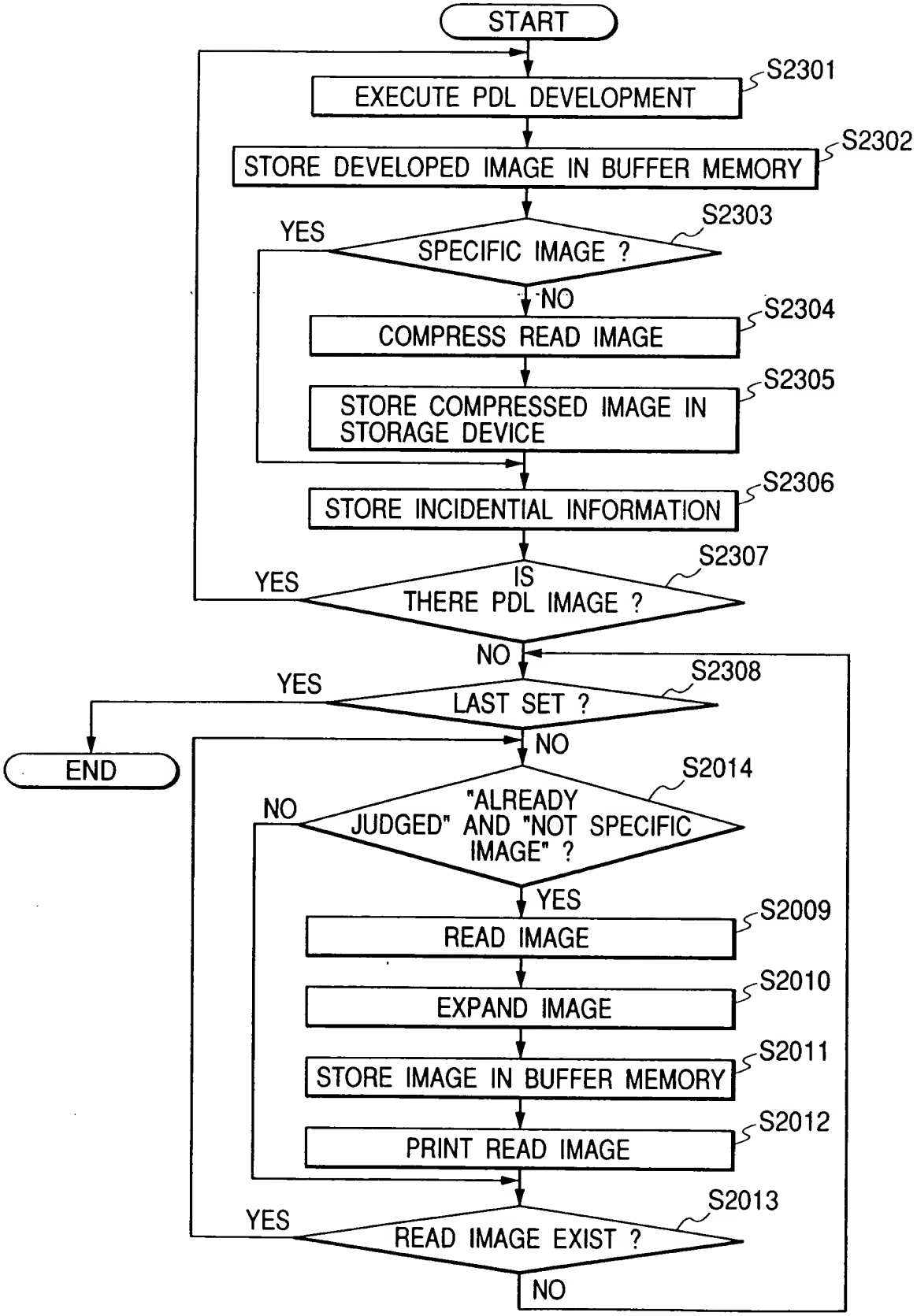

START
EXECUTE PDL DEVELOPMENT
S2301
STORE DEVELOPED IMAGE IN BUFFER MEMORY
S2302
YES
SPECIFIC IMAGE ?
S2303
NO
COMPRESS READ IMAGE
S2304
STORE COMPRESSED IMAGE IN STORAGE DEVICE
S2305
STORE INCIDENTIAL INFORMATION
S2306
YES
IS THERE PDL IMAGE ?
S2307
NO
YES
LAST SET ?
S2308
END
NO
NO
"ALREADY JUDGED" AND "NOT SPECIFIC IMAGE" ?
S2014
YES
READ IMAGE
S2009
EXPAND IMAGE
S2010
STORE IMAGE IN BUFFER MEMORY
S2011
PRINT READ IMAGE
S2012
YES
READ IMAGE EXIST ?
S2013
NO

FIG. 24

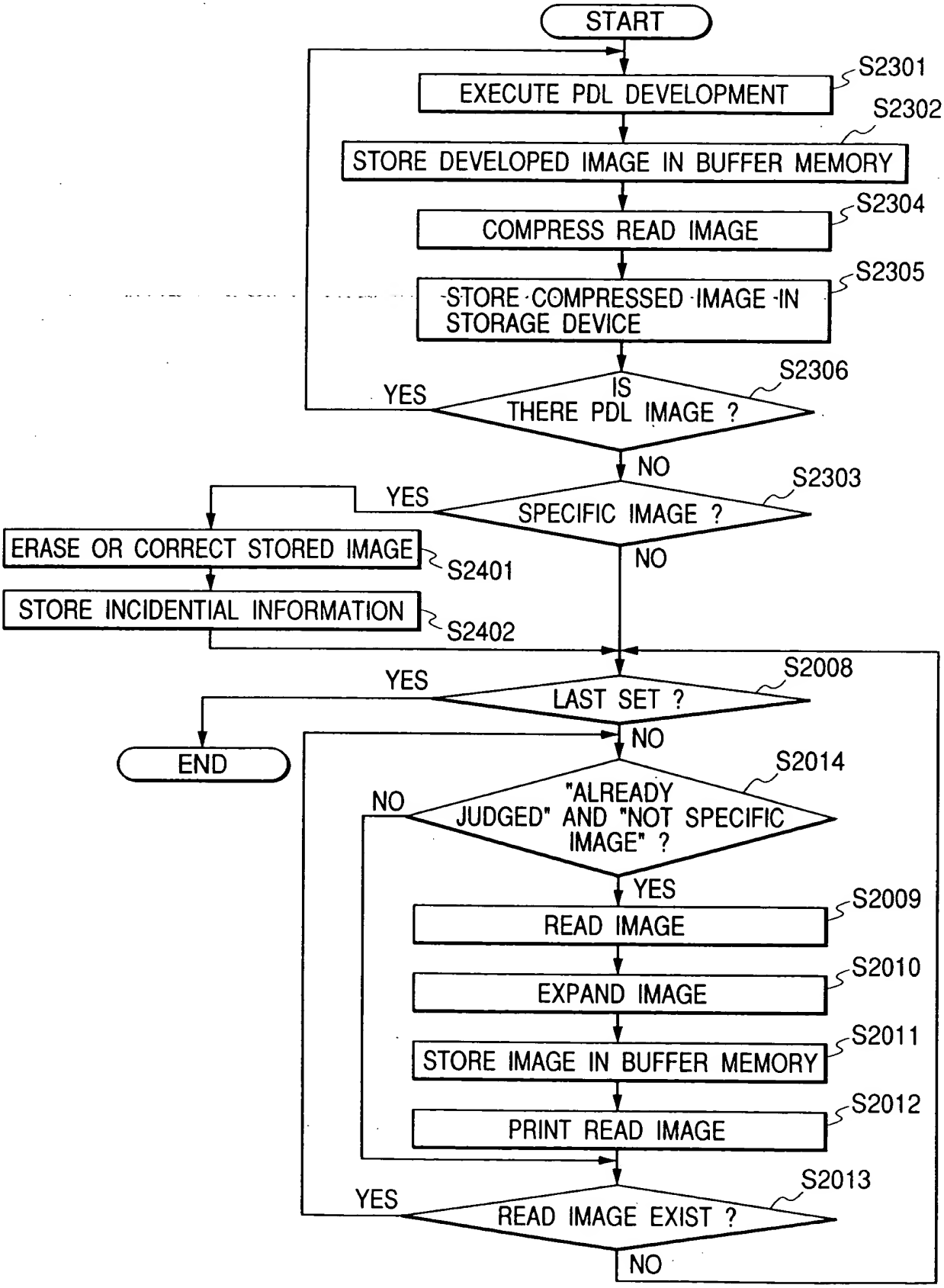

START
EXECUTE PDL DEVELOPMENT
S2301
STORE DEVELOPED IMAGE IN BUFFER MEMORY
S2302
COMPRESS READ IMAGE
S2304
STORE COMPRESSED IMAGE IN STORAGE DEVICE
S2305
IS THERE PDL IMAGE ?
S2306
YES
NO
SPECIFIC IMAGE ?
S2303
YES
NO
ERASE OR CORRECT STORED IMAGE
S2401
STORE INCIDENTIAL INFORMATION
S2402
LAST SET ?
S2008
YES
NO
END
"ALREADY JUDGED" AND "NOT SPECIFIC IMAGE" ?
S2014
NO
YES
READ IMAGE
S2009
EXPAND IMAGE
S2010
STORE IMAGE IN BUFFER MEMORY
S2011
PRINT READ IMAGE
S2012
READ IMAGE EXIST ?
S2013
YES
NO

FIG. 25A

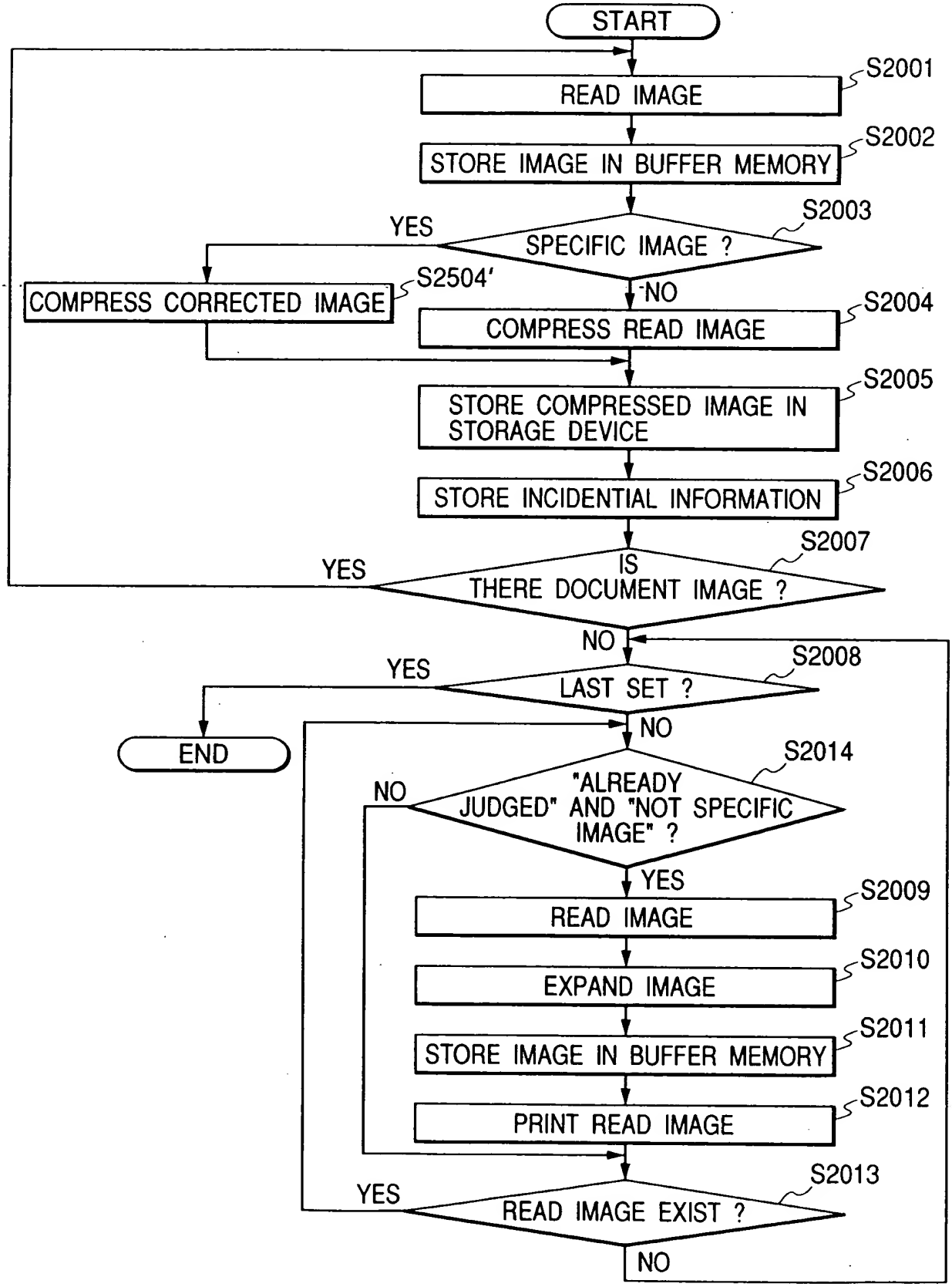

START
READ IMAGE
S2001
STORE IMAGE IN BUFFER MEMORY
S2002
SPECIFIC IMAGE ?
S2003
YES
NO
COMPRESS CORRECTED IMAGE
S2504'
COMPRESS READ IMAGE
S2004
STORE COMPRESSED IMAGE IN STORAGE DEVICE
S2005
STORE INCIDENTIAL INFORMATION
S2006
IS THERE DOCUMENT IMAGE ?
S2007
YES
NO
LAST SET ?
S2008
YES
NO
END
"ALREADY JUDGED" AND "NOT SPECIFIC IMAGE" ?
S2014
NO
YES
READ IMAGE
S2009
EXPAND IMAGE
S2010
STORE IMAGE IN BUFFER MEMORY
S2011
PRINT READ IMAGE
S2012
READ IMAGE EXIST ?
S2013
YES
NO

FIG. 25B

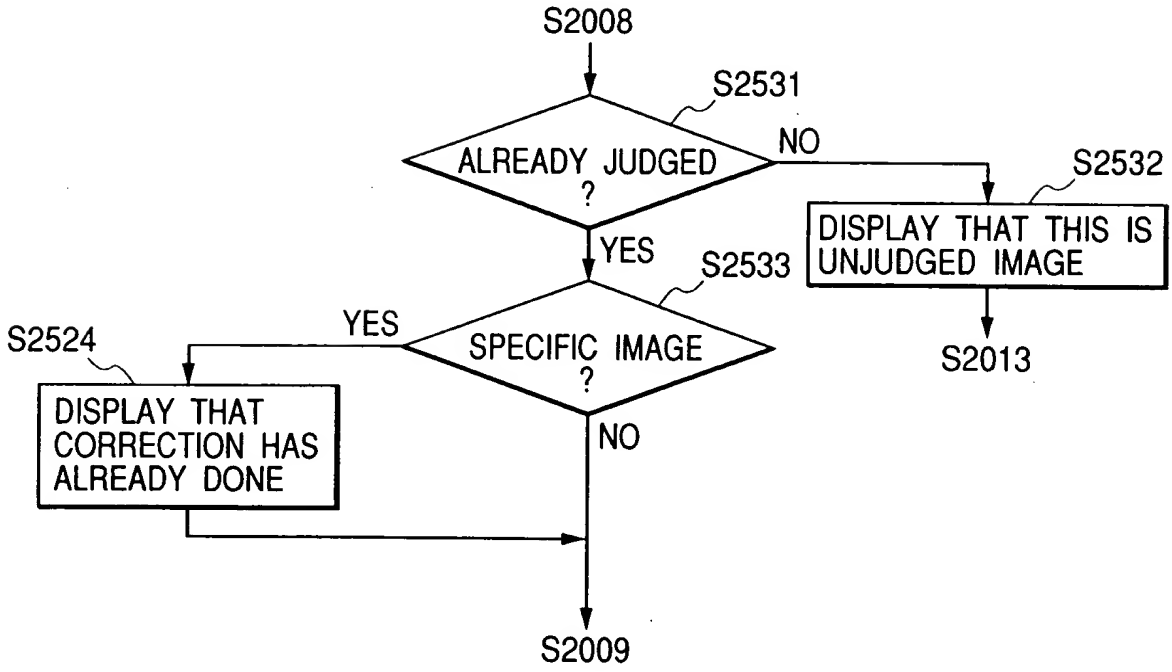

S2008
S2531
ALREADY JUDGED ?
NO
S2532
DISPLAY THAT THIS IS UNJUDGED IMAGE
S2013
YES
S2533
SPECIFIC IMAGE ?
YES
S2524
DISPLAY THAT CORRECTION HAS ALREADY DONE
NO
S2009

FIG. 26

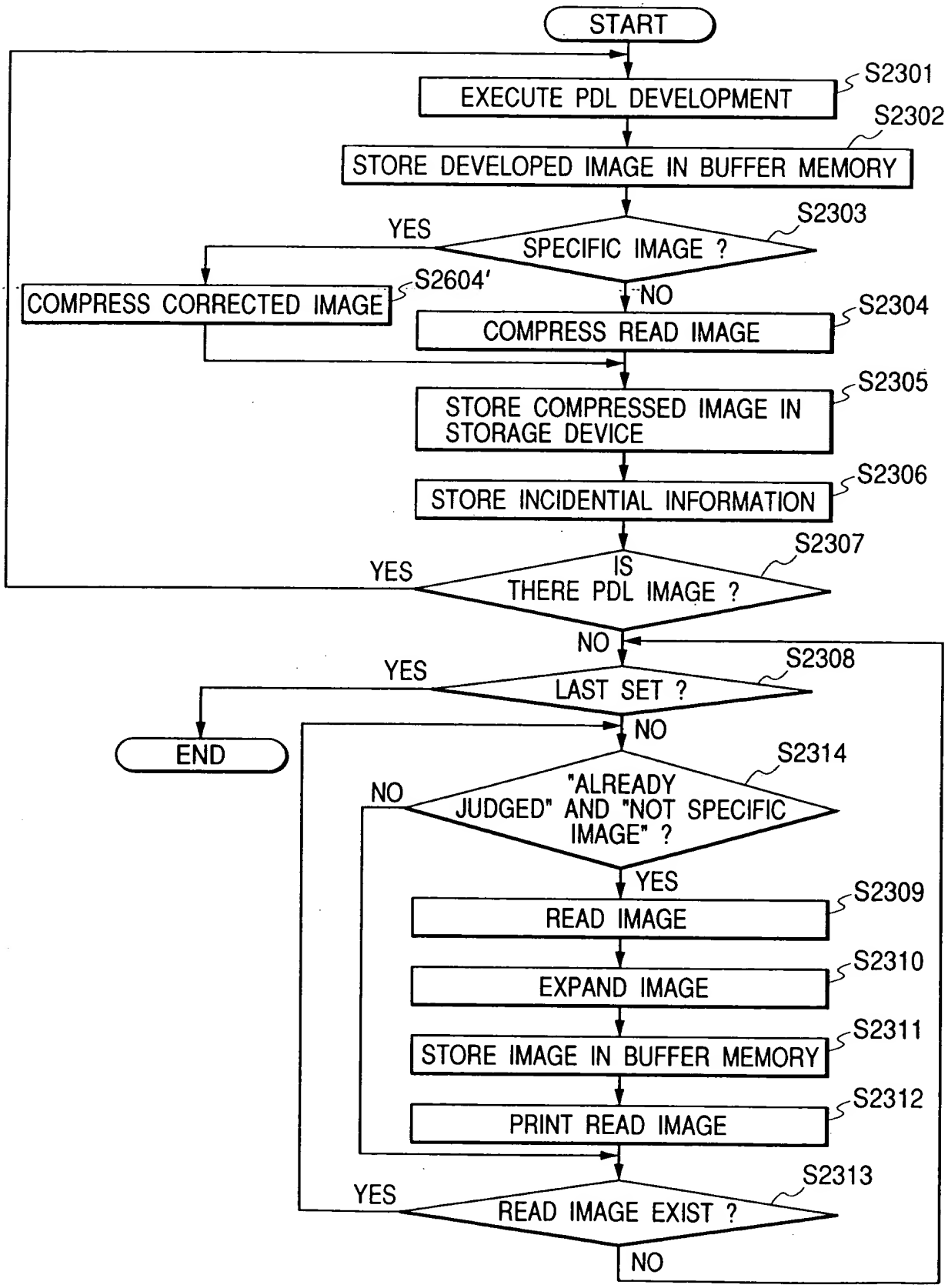

START
EXECUTE PDL DEVELOPMENT
S2301
STORE DEVELOPED IMAGE IN BUFFER MEMORY
S2302
SPECIFIC IMAGE ?
S2303
YES
NO
COMPRESS CORRECTED IMAGE
S2604'
COMPRESS READ IMAGE
S2304
STORE COMPRESSED IMAGE IN STORAGE DEVICE
S2305
STORE INCIDENTIAL INFORMATION
S2306
IS THERE PDL IMAGE ?
S2307
YES
NO
LAST SET ?
S2308
YES
NO
END
"ALREADY JUDGED" AND "NOT SPECIFIC IMAGE" ?
S2314
NO
YES
READ IMAGE
S2309
EXPAND IMAGE
S2310
STORE IMAGE IN BUFFER MEMORY
S2311
PRINT READ IMAGE
S2312
READ IMAGE EXIST ?
S2313
YES
NO

FIG. 27

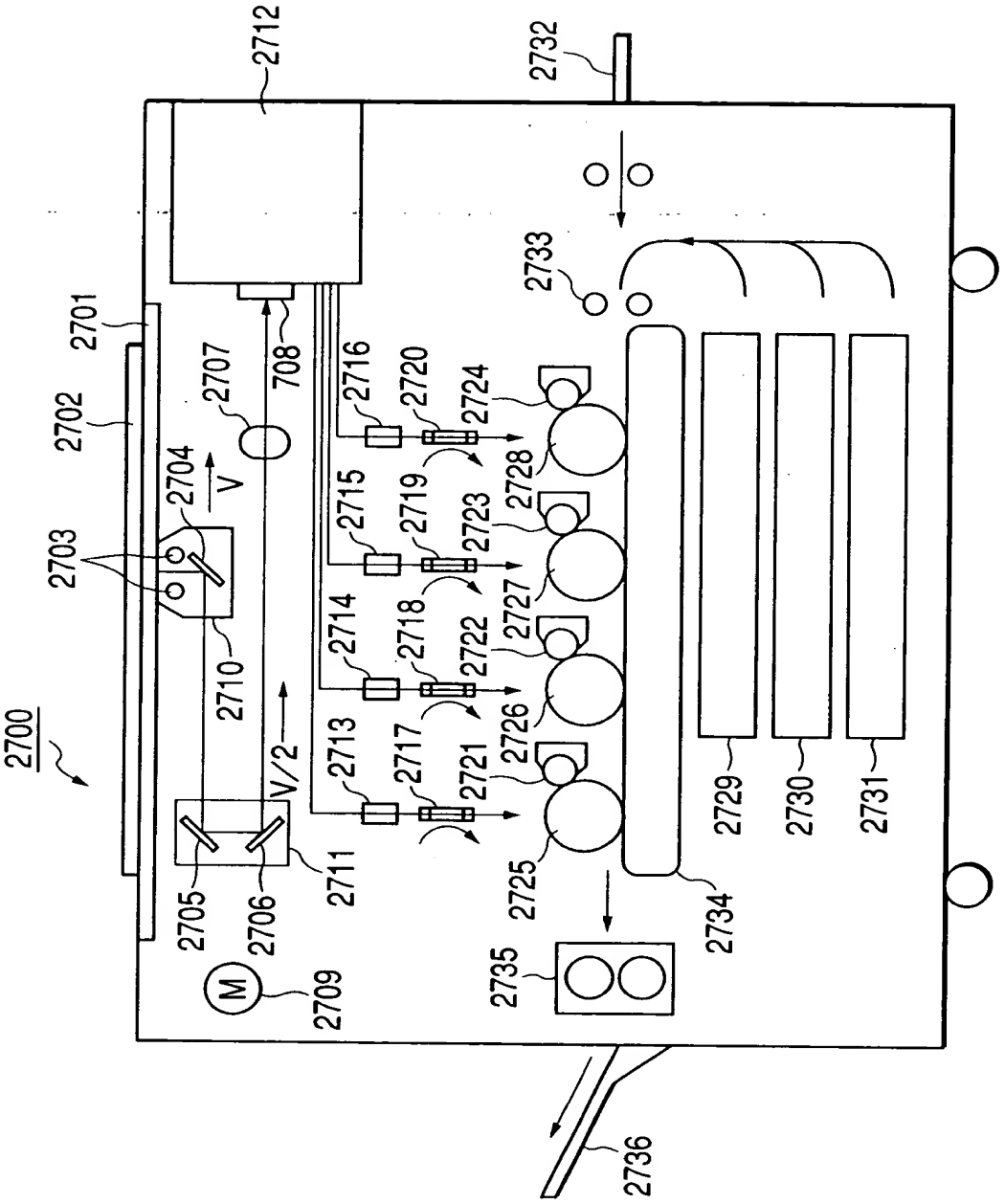
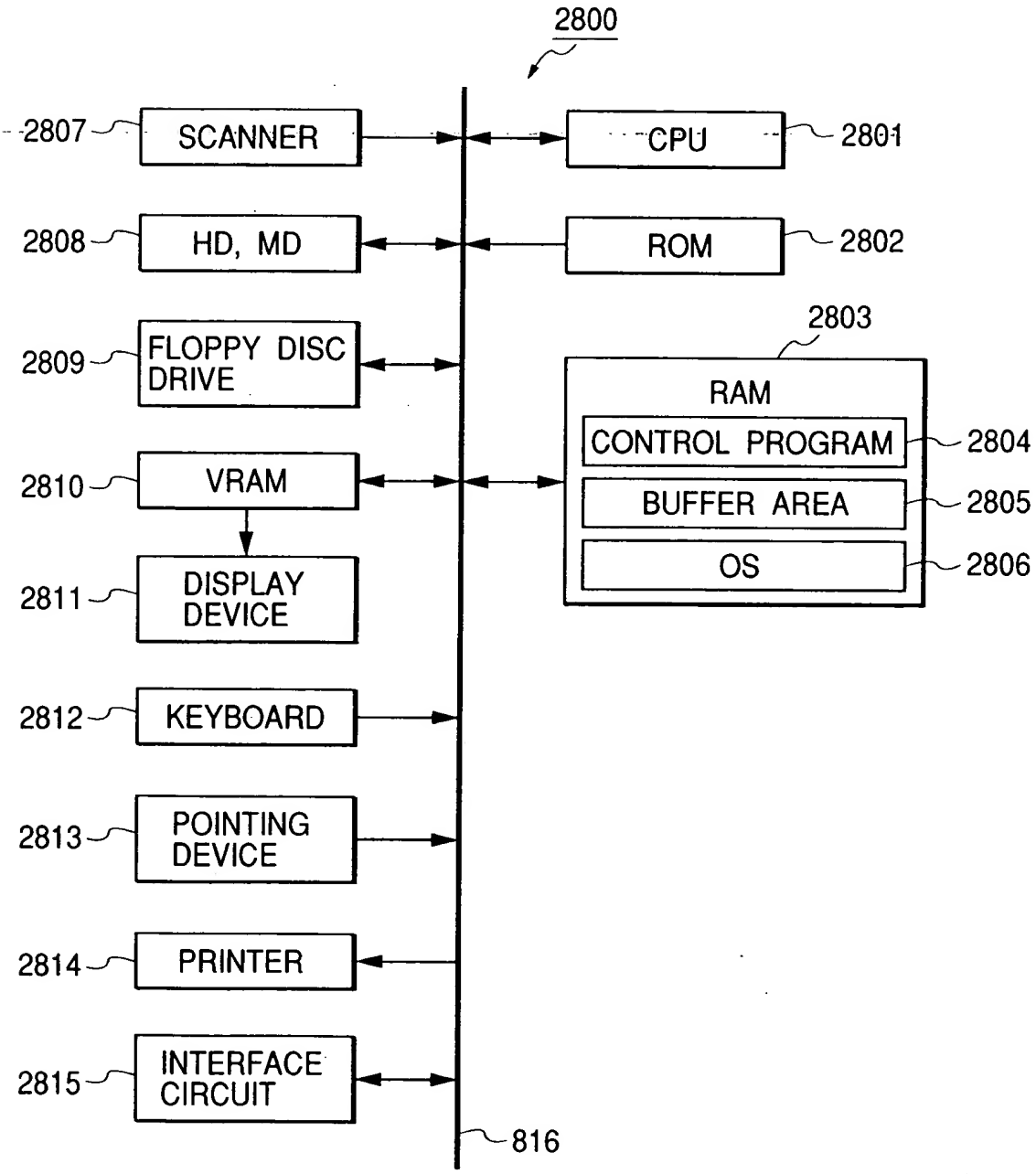

2700
2701
2702
2703
2704
2705
2706
2707
2708
2709
2710
2711
2712
2713
2714
2715
2716
2717
2718
2719
2720
2721
2722
2723
2724
2725
2726
2727
2728
2729
2730
2731
2732
2733
2734
2735
2736
V
V/2
M

FIG. 28


2800
2807
SCANNER
CPU
2801
2808
HD, MD
ROM
2802
2803
2809
FLOPPY DISC DRIVE
RAM
CONTROL PROGRAM
2804
2810
VRAM
BUFFER AREA
2805
OS
2806
2811
DISPLAY DEVICE
2812
KEYBOARD
2813
POINTING DEVICE
2814
PRINTER
2815
INTERFACE CIRCUIT
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